



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBE8814164002-3

Job Sheet 171596



Part No: RBE8814164002-3

Job Qty: 1 ea

Part Name: Wrench Shaft



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/5/18

Job Tracking No:

Due Date: 2/9/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG RBE8814164002-3 REV:1 IPP REV A 18.01.18 NEW ISSUE RQ VERIFIED BY DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		2/8/18	0.00	0.00	Start Up Machining-4		J.C.-L.
120	Lathe Conv	1 pcs		2/8/18	0.00	0.20	Lathe Conv-1		J.C.-L.
130	QC	1 pcs		2/8/18	0.00	0.00	QC2		J.C.-L.
135	Mill Conv	1 pcs		2/9/18	0.00	0.25	Mill Conv 1		J.C.-L.
137	QC	1 pcs		2/9/18	0.00	0.00	QC2		J.C.-L. 18-02-07
140	QC	1 pcs		2/9/18	0.00	0.00	QC8 Machining-2		18/02/08
190	Packaging	1 pcs		2/9/18	0.00	0.00	Packaging3		67
210	QC21-FG	1 Ea		2/9/18	0.00	0.00	QC21		DWG 21 FEB 09 2018

Part Op 120 - 1- Machine as per DWG. 2- Deburr

Descriptions: 135 - 1- Machine as per DWG. 2- Deburr 3- Engrave T/N And / or S/N number as required Using Marktronic engraver as per DWG.

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MT-4140QT-R0.375	AISI 4140 Quenched &Tempered Steel Round Bar 0.375" Dia.	.2600 ft (.26 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MT-4140QT-R0.375	0	0	0

MT-4140 QT-R 0.375 0.344'
S033398

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐			
Date : _____	Step #: _____	QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation		Disposition			Completed By		
					Lead hand / Supervisor Approval Verification		

Root Cause		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐
Design ☐	Operator ☐	Bending ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐
Material ☐	Use for Testing ☐	Cuffs ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐
Past Expiry Date ☐	Manufacturing Process ☐	
Misidentified ☐	Past Due ☐	OTHER : _____

S040108
AEROSPACE
DART

Wrench Shaft

PART NO: RBE8814164002-3

Original Serial #: S040108

Revision:

Operation: Start up Operation 02/07/18

Change No: Job No: 171596

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CANADA
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Email: sales@dartaero.com
www.dartaerospace.com

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



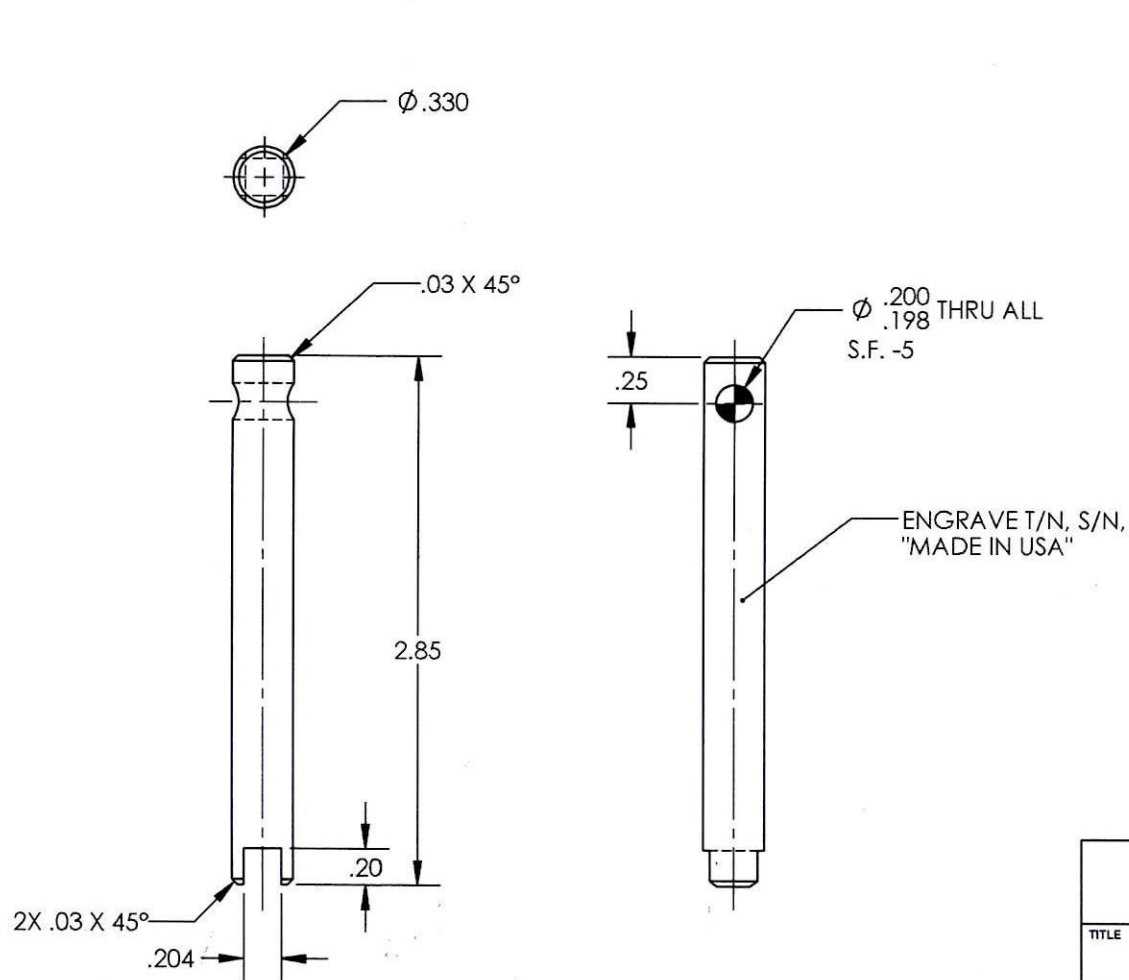
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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REVISIONS			
REV	ECR	DESCRIPTION	DATE
			INITIAL
			APPROVED



SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 170586 MLJ

180119

(-3)
WRENCH SHAFT

DART AEROSPACE	
TITLE SPECIAL WRENCH	
DWG NO. RBE8814164002-3	REV 1
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT RC 28-32	.XXX ± .005 FRACTIONS ± 1/8
FINISH SEE -1	.XX ± .01 ANGLES ± 5°
SPEC	.X ± .1 SURFACES = 125/
DRAWN BY: DUERFELDT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	EC145
SCALE 1:1	DATE 7/21/2016
SHEET 3 OF 3	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								